Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/053,085	**Applicant(s)** GORTE ET AL.	
	Examiner EUGENIA WANG	**Art Unit** 1795	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 10 July 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires *3* months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☒ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: *58*.
   Claim(s) rejected: *2-30,55,56,58-60,62-64 and 66*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
12. ☒ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). 7/22/09
13. ☐ Other: _____.

/Gregg Cantelmo/
Primary Examiner, Art Unit 1795

Continuation of 11. does NOT place the application in condition for allowance because: First it is noted that although the amendment (as filed) is non-compliant, as it improperly amends claims with respect to an after final amendment that was not entered, it appears that the combined amendment would overcome the 112 rejection of record.

(1a)
Applicant argues Applicant argues that the background of Cable '903 Cable criticizes direct bonding of the anode and the electrolyte and states that an element may be positioned between the electrode and electrolyte (with respect to US 4582766, a different Isenberg reference than the one currently relied upon in the rejection) and sets forth ways to avoid bonding (as set forth in col. 2, lines 38-41 and 46-52).

Examiner respectfully disagrees for the following reasons: (a) such an argument is irrelevant and (b) Cable '903 does not constitute a teaching away from Isenberg. Reasons as to these positions are set forth below.
(a) Applicant's argument is irrelevant:
It is noted that within the current rejection, Isenberg is only being relied upon to provide ceria into the pores for sulfur tolerance purposes. Accordingly, the combination is with respect to the ceria, and not direct towards the anode/electrolyte interface. Furthermore, it is noted that the inclusion of ceria in an electrode, regardless of the anode/electrolyte of interface, would provide the same affect to the electrode - sulfur tolerance. Accordingly, it is seen that one of ordinary skill in the art would be able to combine the teaching within Isenberg, with respect to ceria improving sulfur tolerance, and apply it to other solid oxide systems, wherein the same characteristic of improved sulfur tolerance would be expected. Applicant has not given any proof or reasoning as to how the electrolyte/anode interface would affect the characteristic of ceria for sulfur tolerance or how the results of this combination would yield any unexpected results. Accordingly, the arguments are seen to be irrelevant, as they do not address the rejection as set forth, and are thus not convincing. Thus the rejection of record is maintained.
Additionally, it is noted that electronically conducting particles are only optional in Cable '903 (i.e. are not necessarily present within the anode) (col. 5, lines 23-36). Accordingly, there is not necessarily bonding between the electronic conductors (metals) and electrolyte, which is what Cable '903 is criticizing in col. 2, lines 30-43. Accordingly, the condition which Cable '903 is criticizing (about Isenberg) may not even exist. Accordingly, arguments as to the fact that Cable '903 criticizes the metal/ceramic expansion differences (within the electrode and electrolyte, respectively) is not germane to the rejection of record, as metal expansion may not problem within Cable '903 (as its inclusion is not necessary). Accordingly, the argument is not seen to be relevant to the rejection, and is unconvincing. Thus the rejection of record is maintained.
(b) Cable '903 does not teach away from Isenberg:
Although Cable '903 may teach that there may be disadvantages to the bonding of Isenberg, this does not specifically constitute a teaching away. It does not negate the fact that Cable '903 teaches an example wherein the anode material is coated directly to the surface of the electrolyte (col. 5, lines 5-22). Fig. 1, which is embodied by Cable'903, shows direct bonding between the anode and the electrolyte as well. Examiner submits that although a microslip layer may be preferred, the entire disclosure of Cable '903 clearly shows that they recognize that a fuel cell without such a layer would still be known to work to one of ordinary skill in the art. Accordingly, consideration of the entire reference of Cable '903 would include a teaching of a directly bonded anode/electrolyte. Thus, Applicant's arguments are not found to be convincing, and the rejection of record is maintained.
Furthermore, Examiner would like to submit that Cable '903 (even with the microslip layer) is not teaching that anode material is not being bonded directly to the electrolyte. The microslip material itself is just anode material, wherein it is embodied that the electrode is made up of the microslip layer (for example [17] on the anode side) with the bulk electrode (for example [4] anode), wherein this is a continuous layer with a porosity gradient within the anode material (col. 6, lines 11-26). Accordingly, in this manner, it is seen that Cable '903 is merely teaching a porosity gradient through the electrode active material, and in such a manner, it does not constitute a teaching away of having anode material bonded to the electrolyte. Thus, Applicant's arguments are not found to be convincing, and the rejection of record is maintained.

(1b)
Applicant argues that the cited references teach away from the claimed invention, because Cable '903 criticizes bonding between the anode and electrolyte and advocates the disposition of "microslip zones" between the electrolyte and electrode components (col. 5, lines 53-68).

Examiner respectfully disagrees. As set forth above, the nature of the anode/electrolyte interface is irrelevant to the rejection of record (as the combination is directed towards sulfur tolerance), and Cable '903 does not actually constitute a teaching away (since direct bonding is clearly shown in fig. 1 and since the microslip layer is embodied to be made of anode material and is embodied to be continuous with the bulk anode, and thus is bonded with the electrolyte). Please see response to the remarks under section 1a for full details. Again it is emphasized that such arguments are not germane to the rejection of record, as they fail to discuss sulfur tolerance and fail to show any proof as to how the anode/electrolyte interface would affect the addition of ceria. Additionally, it is Cable '903 does not teach away from bonding the anode material and the electrolyte; it is only seen to teach of an improved anode/electrolyte interface, wherein a porosity gradient of the anode would improve the system mechanically. Therefore, such arguments are not found to be convincing, and the rejection of record is maintained.

(1c)
Applicant argues that Examiner's interpretation of fig. 1 is incorrect (and that just because an anode and an electrolyte are placed next to each other, it does not constitute being bound).

Examiner respectfully disagrees. It is uncertain how two things placed in physical contact with one another are not bound in some

manner. For example, the anode and electrolyte are bound to one another via pressure by the other elements of the stack (that sandwich the two pieces). If such a binding (via contact) did not occur, the fuel cell system would leak reactants. Accordingly, it is not clear how binding of some sort does not exist. Therefore, such arguments are not found to be convincing, and the rejection of record is maintained.

Applicant again argues that the interpretation applied is improper, because Cable '903 criticized bonding.

Examiner respectfully disagrees. Again it is emphasized although Cable '903 may teach that there may be disadvantages to bonding, this does not constitute a teaching away. It does not negate the fact that Cable '903 teaches an example wherein the anode material is coated directly to the surface of the electrolyte (col. 5, lines 5-22). (See response to argument in section 1a for full details, not reiterated herein for brevity's sake). Again it is unclear how two materials placed next to each other in a stack does not constitute at least some sort of bonding by physical proximity. Therefore, such arguments are not found to be convincing, and the rejection of record is maintained.

(1d)
Applicant argues that the combination of Cable '903 and Isenberg for the purposes of sulfur tolerance is improper, wherein Applicant submits Examiner has disregarded the fact that the references teach away from one another.

Examiner respectfully disagrees. First it is submitted that Examiner has not "disregarded" any portion of the references. As set forth within the response to the arguments set forth in section (1a), the references are not seen to teach away from one another. Full details as to such a reasoning can be found in the response to Applicant's arguments of (1a). However, such points are summarized herein for clarity's sake: (1) Cable '903 still teaches an example wherein the anode material is coated directly to the surface of the electrolyte (col. 5, lines 5-22; fig. 1) and (2) Cable '903's microslip material is just anode material, wherein it is embodied that a composite electrode is made up of the microslip layer [17] with the bulk anode [4], wherein this is a continuous layer with a porosity gradient within the anode material (col. 6, lines 11-26). Accordingly, in this manner, it is seen that Cable '903 is merely teaching a porosity gradient through the electrode active material, and in such a manner, it does not constitute a teaching away of having anode material bonded to the electrolyte, the composite anode (as set forth above) is still placed next to the electrolyte. In such a manner, Examiner submits that Applicant has not addressed the nature of the rejection (as it is drawn to sulfur tolerance) and has not considered the entire reference of Cable '903 (as Cable '903 teaches of an example wherein no microslip layer is present, and that even if the microslip layer is present, it is part of the anode, thus constituting an anode/electrolyte bond). Accordingly, the arguments are not found to be persuasive, and the rejection of record is maintained.

(1e)
Applicant argues that Keegan et al. does not teach of fuel cells capable of directly operating on hydrocarbons that do not undergo prior treatment (as Keegan et al. teaches the use of a reformer).

Examiner respectfully disagrees and submits Applicant is reading the claim language too narrowly. First It is noted that the fuel cells within the systems/processes of using such defined systems are inherently "capable" of operating directly with a sulfur-containing hydrocarbon fuel without undergoing treatment to remove sulfur compounds, as such systems are the same as that claimed, barring a showing to the contrary. It is emphasized that none of the pending claims specifically require the limitation that the fuel that is introduced is not treated only the capability of operating with such untreated fuels. Accordingly, Examiner is unsure how the obviated system/process is not capable of operating with unprocessed fuels, as the obviated system/process is the same as the claimed system/process (wherein Keegan et al. is relied upon to render obvious the use of different fuels).

Furthermore, as applied to the product claims only:
It has been held that the recitation of an element is "capable" of performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138.
While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).
Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.
The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).
Accordingly, Examiner submits that the argument is not directed at the claimed invention. Thus the arguments are not found to be persuasive, and the rejection of record is maintained.

(2)
With respect to the arguments regarding the 103 rejections, Applicant argues that the prior art used to render obvious the rejected claims (Anumakonda) do not cure the deficiencies of the rejection to the independent claims. Applicant does not argue how the combination is not proper. Therefore, the Examiner maintains the obviousness rejections and upholds the rejection of the independent claims, as above.

Furthermore, Applicant argues that Anumakonda, like Keegan, teaches of reformation of a fuel before a fuel cell operates with it.

Examiner respectfully disagrees. As set forth within section (1e), Applicant is reading the claim language more narrowly than interpretation affords. It is again emphasized that none of the claims positively require that the fuel is not treated, only that the fuel cell is capable of operating with a fuel that is not treated. Again, it is uncertain how the obviated structure/process, which is the same as the claimed structure/process would not be capable of operating with an untreated fuel. (See section (1e) for full details.) Thus the arguments

are not found to be persuasive, and the rejection of record is maintained.

(3-4)
With respect to the arguments regarding the 103 rejections, Applicant argues that the prior art used to render obvious the rejected claims (Wallin and Cable '285) do not cure the deficiencies of the rejection to the independent claims. Applicant does not argue how the combination is not proper. Therefore, the Examiner maintains the obviousness rejections and upholds the rejection of the independent claims, as above.

(5)
Applicant argues that the combination of Cable '903, Isenberg, Keegan, and Cable '285 are improper for the reasons as set forth previously.

Examiner respectfully disagrees. It is submitted that Examiner has clearly set forth the reasons as to why the references are still combinable. (See response to arguments above, incorporated herein but not reiterated herein for brevity's sake.) Thus the arguments are not found to be persuasive, and the rejection of record is maintained.